

**Sara Munera – Abstract**

### **Development and Implementation of an Online Wheelchair Maintenance Training Program**

Seventy-five million people worldwide are in need of a wheelchair in order to perform activities of daily living and fully enjoying life. In the last couple of years, research has shown an increase in wheelchair breakdowns and the related adverse consequences in wheelchair users such as being injured or stranded; research also suggests that performing maintenance on wheelchairs can reduce the number of wheelchair breakdowns and associated injuries. Based on this evidence, an in-person Wheelchair Maintenance Training Program (WMTP) was developed with promising outcomes: participants increased their knowledge related to wheelchair maintenance and their capacity of performing maintenance activities. In order to run this training, extensive resources and time are required. The development of an online version of the WMTP could decrease the resources needed, making the training available for people around the globe. The Online WMTP was developed through an iterative approach in five different phases: content translation, internal review, external review, usability test, and pilot. The result of this process is a training program with online modules to teach clinicians how to train users in performing maintenance on their manual and power wheelchairs. The Online WMTP was implemented at the University of Pittsburgh with fourteen individuals who participated in the training program. Pre- and post-training results indicated a statistically significant increase in wheelchair maintenance knowledge, capacity, and confidence. There were no differences in learning outcomes for participants in the in-person compared to online training program, suggesting that both training methods have a similar learning effect. Both training programs are an effective method for teaching wheelchair maintenance and have the potential of reducing wheelchair breakdowns since users will know how to maintain their wheelchairs and how often to do it. Additionally, the Online version of the training program allows easier access for a broader population of trainees and can be modified and translated to different languages, making it worldwide accessible.